AMENDMENTS TO THE CLAIMS

Listing of claims:

1. (Currently Amended) A method of making an olefin oligomerization catalyst having reduced corrosive compounds, the catalyst comprising a composition comprising a chromium-containing compound, wherein the composition comprising a chromium-containing compound further comprises acidic protons, water, or both; a pyrrole-containing compound; a metal alkyl; a metal halide-containing compound, a non-metal halide-containing compound, or both; and optionally a solvent, the method comprising: abating all or a portion of the water, acidic protons, or both from the composition comprising the chromium-containing compound by contact thereof with a non-halide metal alkyl prior to contact thereof with a composition comprising the metal halide-containing compound, wherein the abating of all or a portion of the water, acidic protons, or both reduces formation of the corrosive compounds**, and wherein a molar ratio of the non-halide metal alkyl to the chromium-containing compound is less than about 1.5:1 prior to contacting the composition comprising the chromium-containing compound with the non-halide metal alkyl**.

2. (Previously Presented) The method of claim 1, wherein the composition comprising a metal halide-containing compound comprises (i) a metal alkyl halide, (ii) a metal halide and a metal alkyl, (iii) a metal halide-containing compound formed from a non-metal halide and a metal alkyl, or (iv) combinations thereof.

3. (Previously Presented) The method of claim 1, wherein the catalyst comprising abated components yields less of one or more corrosive compounds during olefin oligomerization in comparison to a same catalyst without abated components.

4. (Canceled)

5. (Previously Presented) The method of claim 1, wherein the non-halide metal alkyl comprises triethylaluminum (TEA).

6. (Previously Presented) The method of claim 1, wherein the portion of the non-halide metal alkyl is an amount effective to abate substantially all available water, acidic protons, or both from the composition comprising the chromium-containing compound.

7. (Previously Presented) The method of claim 1, wherein the acidic protons are provided by 2-ethylhexanoic acid.

8. (Previously Presented) The method of claim 1, wherein the non-halide metal alkyl is added in an amount less than or equal to about 30 weight percent of the total weight of the composition comprising the chromium-containing compound.

9-10. (Canceled)

11. (Previously Presented) The method of claim 1, wherein the non-halide metal alkyl is added in an amount such that the molar ratio of non-halide metal alkyl to chromium-containing compound in the mixture is less than about 1:1.

12. (Previously Presented) The method of claim 1, wherein the non-halide metal alkyl is added in an amount sufficient to abate at least about 25 percent of the water, acidic protons, or both.

13. (Previously Presented) The method of claim 1, wherein the non-halide metal alkyl is added in an amount that is about a 200 percent excess of an amount sufficient to abate at least about 100 percent of the water, acidic protons, or both.

14. (Previously Presented) The method of claim 1, further comprising filtering a precipitate from the mixture prior to combining the mixture with the composition comprising the pyrrole-containing compound, the composition comprising the halide-containing compound, the composition comprising the solvent, any remaining non-halide metal alkyl, or combinations thereof.

15. (Previously Presented) The method of claim 1, further comprising contacting the composition comprising the pyrrole-containing compound with the composition comprising the chromium-containing compound prior to said contacting the composition comprising the chromium-containing compound with the non-halide metal alkyl.

16. (Original) The method of claim 15, wherein the non-halide metal alkyl is added to the combination of the composition comprising the chromium-containing compound and the composition comprising the pyrrole-containing compound.

17. (Previously Presented) The method of claim 1, wherein the abating of all or a portion of water, acidic protons, or both further comprises contacting the composition comprising the pyrrole-containing compound with a portion of the non-halide metal alkyl to form a mixture prior to contacting the mixture with the remaining compositions.

18. (Previously Presented) The method of claim 1, wherein the abating all or a portion of water, acidic protons, or both further comprises combining the composition comprising the pyrrole-containing compound with a portion of the non-halide metal alkyl to form a second mixture prior to contacting the second mixture with the remaining compositions.

19. (Previously Presented) The method of claim 1, wherein the contacting further comprises:

(a) contacting the composition comprising the chromium-containing compound and the composition comprising the pyrrole-containing compound;

(b) contacting the resultant contacted compounds from step (a) and the non-halide metal alkyl; and

(c) contacting the resultant contacted compounds from step (b) and the composition comprising the metal halide-containing compound.

20. (Previously Presented) The method of claim 19, further comprising contacting a non-metal halide with (i) the composition comprising the chromium-containing compound prior to step (a), (ii) the composition comprising the pyrrole-containing compound prior to step (a), (iii) both the composition comprising the chromium-containing compound and the composition comprising

the pyrrole-containing compound prior to step (a); or (iv) the resultant contacted compounds from step (a).

21. (Previously Presented) The method of claim 1, wherein:

(a) the composition comprising the chromium-containing compound and a portion of the non-halide metal alkyl are contacted to form a first mixture;

(b) the composition comprising the pyrrole-containing compound and a portion of the non-halide metal alkyl are contacted to form a second mixture; and

(c) the first mixture and the second mixture are contacted with the composition comprising the metal halide-containing compound.

22. (Original) The method of claim 21, wherein step (c) is performed over a period of time, a starting pyrrole:Cr molar ratio at the start of the period of time is greater than the final pyrrole:Cr molar ratio of the catalyst, and an ending pyrrole:Cr molar ratio at the end of the period of time is less than the final pyrrole:Cr molar ratio of the catalyst.

23. (Currently Amended) A process for preparing a chromium-based catalyst having reduced corrosive compounds, comprising bringing a pyrrole ring-containing compound, an alkyl aluminum compound, and a halogen-containing compound into contact with each other in a hydrocarbon solvent, halogenated hydrocarbon solvent or mixture thereof, and then bringing the mixed resultant solution into contact with a composition comprising a chromium-containing compound, wherein the composition comprising a chromium-containing compound further comprises acidic protons, water, or both, ~~and~~ wherein water, acidic protons, or both are abated

from the composition comprising the chromium-containing compound by contact thereof with a non-halide metal alkyl prior to bringing the mixed resultant solution into contact with the composition comprising the ~~chromium~~**halogen**-containing compound, wherein abatement of water, acidic protons, or both reduces formation of the corrosive compounds**, and wherein a molar ratio of the non-halide metal alkyl to the chromium-containing compound is less than about 1.5:1 prior to contacting the composition comprising the chromium-containing compound with the non-halide metal alkyl**.

24. (Currently Amended) A process for preparing a chromium-based catalyst having reduced corrosive compounds, comprising bringing a composition comprising a chromium-containing compound, wherein the composition comprising a chromium-containing compound further comprises acidic protons, water, or both; a pyrrole ring-containing compound; an alkyl aluminum compound; and a halogen-containing compound into contact with each other in a hydrocarbon solvent, halogenated hydrocarbon solvent or mixture thereof in the absence of alpha-olefin under such a condition that the concentration of the chromium compound in the resultant mixed solution is about 1×10^{-7} to 1 mol/liter, wherein water, acidic protons, or both are abated from the composition comprising a chromium-containing compound by contact thereof with a non-halide metal alkyl prior to preparation of the catalyst, ~~and~~ wherein abatement of water, acidic protons, or both reduces formation of the corrosive compounds**, and wherein a molar ratio of the non-halide metal alkyl to the chromium-containing compound is less than about 1.5:1 prior to contacting the composition comprising the chromium-containing compound with the non-halide metal alkyl**.

25-30. (Canceled)

31. (Currently Amended) A catalyst system for the oligomerization of olefins having reduced corrosive compounds, the catalyst system comprising:

a chromium source comprising acidic protons, water, or both;

a metal alkyl; and

a halopyrrole ligand, wherein water, acidic protons, or both are abated from the chromium source by contact thereof with a non-halide metal alkyl prior to formation of the catalyst, ~~and~~ wherein abatement of water, acidic protons, or both reduces formation of the corrosive compounds, **and wherein a molar ratio of the non-halide metal alkyl to the chromium source is less than about 1.5:1 prior to contacting the chromium source with the non-halide metal alkyl**.

32-37. (Canceled)

38. (Previously Presented) The method of claim 1, wherein the metal halide-containing compound comprises a metal alkyl halide.

39-45. (Canceled)

46. (Currently Amended) A method of making a catalyst composition for use in oligomerizing an olefin comprising a composition comprising a chromium-containing compound, wherein the composition comprising a chromium-containing compound further comprises acidic protons, water, or both; the method comprising abating all or a portion of water, acidic protons, or both

from the composition comprising the chromium-containing compound **by contact thereof with a non-halide metal alkyl** prior to formation of the catalyst**, and wherein a molar ratio of the non-halide metal alkyl to the chromium-containing compound is less than about 1.5:1 prior to contacting the composition comprising the chromium-containing compound with the non-halide metal alkyl**.

47. (Canceled)

48. (Currently Amended) The method of ~~claim 47~~ **claim 46**, wherein the non-halide metal alkyl is triethylaluminum.

49-53. (Canceled)

54. (Previously Presented) The method of claim 1 wherein the chromium-containing compound has the formula CrX_n, wherein X is an organic or inorganic radical and n is an integer from 0 to 6.

55. (Previously Presented) The method of claim 54 wherein the organic radical is selected from the group consisting of alkyl, alkoxy, ester, ketone, amino radicals, and combinations thereof.

56. (Previously Presented) The method of claim 1 wherein the chromium-containing compound is a chromium carboxylate.

57. (Previously Presented) The method of claim 1 wherein the chromium-containing compound is selected from the group consisting of chromium (III) isooctanoate, chromium (III) 2,2,6,6-tetramethylheptanedionate, chromium (III) naphthenate, chromium (III) chloride, chromium (III) tris(2-ethylhexanoate), chromic bromide, chromic chloride, chromic fluoride, chromium (III) oxy-2-ethylhexanoate, chromium (III) dichloroethylhexanoate, chromium (III) acetylacetonate, chromium (III) acetate, chromium (III) butyrate, chromium (III) neopentanoate, chromium (III) laurate, chromium (III) stearate, chromium (III) oxalate, chromium (III) benzoate, chromium (III) pyrrolide(s), and combinations thereof.

58. (Previously Presented) The method of claim 1 wherein the chromium-containing compound is chromium (III) 2-ethylhexanoate.

59. (Previously Presented) The method of claim 23 wherein the chromium-containing compound comprises chromium carboxylate.

60. (Previously Presented) The method of claim 23 wherein the chromium-containing compound is selected from the group consisting of chromium (III) isooctanoate, chromium (III) 2,2,6,6-tetramethylheptanedionate, chromium (III) naphthenate, chromium (III) chloride, chromium (III) tris(2-ethylhexanoate), chromic bromide, chromic chloride, chromic fluoride, chromium (III) oxy-2-ethylhexanoate, chromium (III) dichloroethylhexanoate, chromium (III) acetylacetonate, chromium (III) acetate, chromium (III) butyrate, chromium (III) neopentanoate, chromium (III) laurate, chromium (III) stearate, chromium (III) oxalate, chromium (III) benzoate, chromium (III) pyrrolide(s), and combinations thereof.

61. (Previously Presented) The method of claim 24 wherein the chromium-containing compound comprises chromium carboxylate.

62. (Previously Presented) The method of claim 24 wherein the chromium-containing compound is selected from the group consisting of chromium (III) isooctanoate, chromium (III) 2,2,6,6-tetramethylheptanedionate, chromium (III) naphthenate, chromium (III) chloride, chromium (III) tris(2-ethylhexanoate), chromic bromide, chromic chloride, chromic fluoride, chromium (III) oxy-2-ethylhexanoate, chromium (III) dichloroethylhexanoate, chromium (III) acetylacetonate, chromium (III) acetate, chromium (III) butyrate, chromium (III) neopentanoate, chromium (III) laurate, chromium (III) stearate, chromium (III) oxalate, chromium (III) benzoate, chromium (III) pyrrolide(s), and combinations thereof.

63. (Previously Presented) The method of claim 46, wherein water, acidic protons, or both are abated by the addition of a non-halide metal alkyl to the composition comprising the chromium-containing compound in an amount that is about a 200 percent excess of an amount sufficient to abate at least about 100 percent of the water, acidic protons, or both.

64. (Currently Amended) A method of making an olefin oligomerization catalyst having reduced corrosive compounds, the catalyst comprising a composition comprising a chromium-containing compound and a pyrrole-containing compound, wherein the composition comprising the chromium-containing compound, the pyrrole-containing compound, or both further comprise acidic protons, water, or both; a metal alkyl; a metal halide-containing compound, a non-metal

halide-containing compound, or both; and optionally a solvent; the method comprising: abating all or a portion of the water, acidic protons, or both from the composition comprising the chromium-containing compound, a composition comprising the pyrrole-containing compound, or combinations thereof by contact thereof with a non-halide metal alkyl to form a mixture prior to contact of the mixture with a composition comprising the metal halide-containing compound, wherein the non-halide metal alkyl is added in an amount that is about 200% excess of an amount sufficient to abate at least about 100% of the water, acidic protons, or both, ~~and~~ wherein the abating all or a portion of the water, acidic protons, or both reduces formation of the corrosive compounds**, and wherein a molar ratio of the non-halide metal alkyl to the chromium-containing compound is less than about 1.5:1 prior to contacting the composition comprising the chromium-containing compound with the non-halide metal alkyl**.

65. (Previously Presented) The method of claim 64 wherein the mixture comprises the composition comprising the chromium-containing compound and the non-halide metal alkyl.

66. (Previously Presented) The method of claim 65 wherein the mixture further comprises the pyrrole-containing compound.

67. (Previously Presented) The method of claim 65 wherein the abating all or a portion of water, acidic protons, or both further comprises combining the composition comprising the pyrrole-containing compound with a portion of the non-halide metal alkyl to form a second mixture prior to contacting the second mixture with the remaining compositions.

68. (Previously Presented) The method of claim 64 wherein the chromium-containing compound comprises chromium carboxylate.